

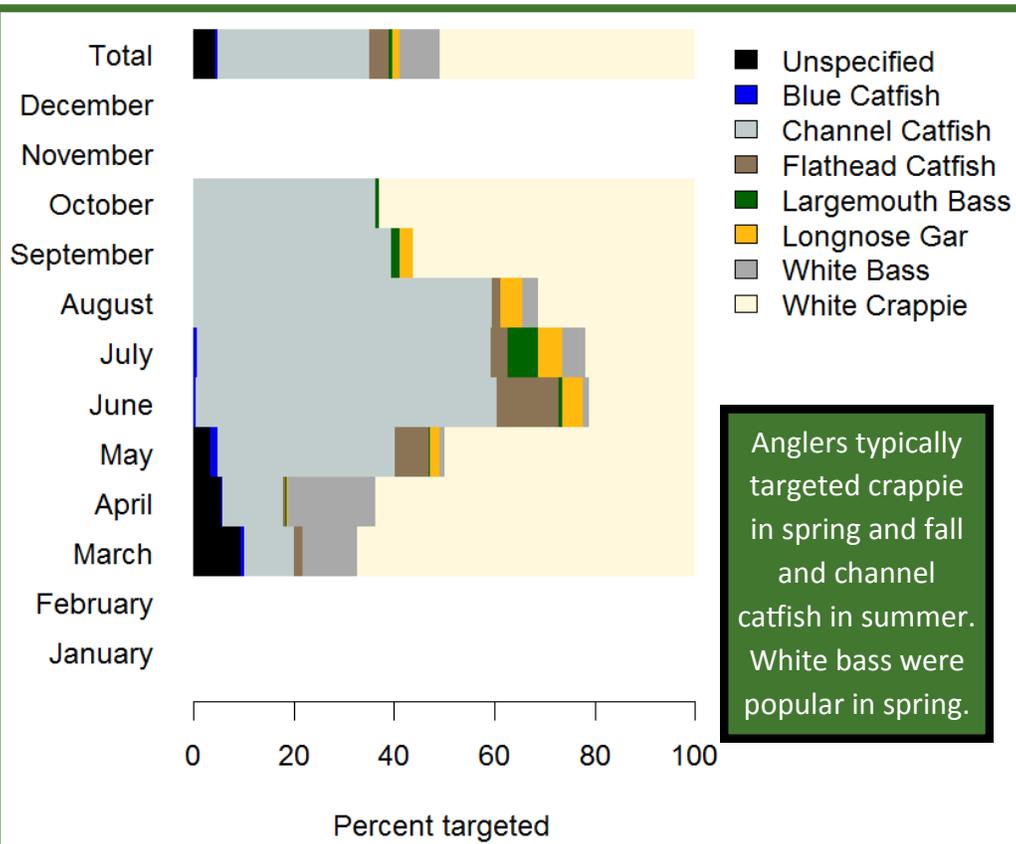
Elk City District Fisheries

Kansas Department of Wildlife, Parks and Tourism

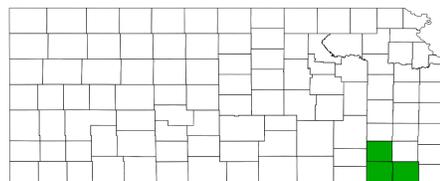
Winter 2014/2015

Three-Year Elk City Creel Survey Complete

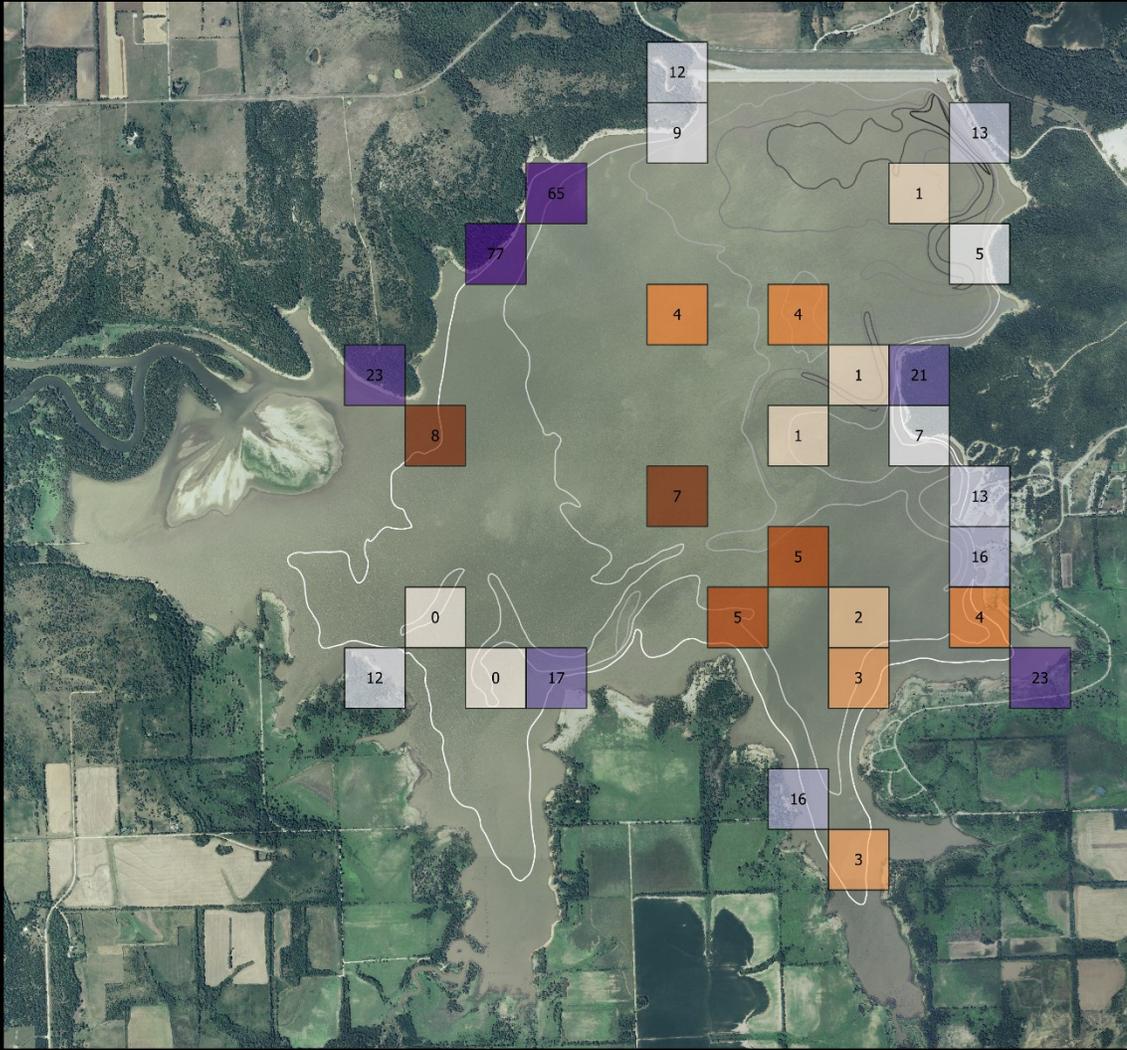
There are many ways that fisheries biologists monitor fisheries. Many anglers are familiar with our annual samples. However, we have another tool that helps us understand the end product: angler creel surveys. These surveys start with a dedicated creel clerk who counts and interviews anglers at randomly-selected dates and times. They are typically interested in what the angler is fishing for, where they're from, and what they're catching. This information is considered by fisheries managers when deciding how to fine tune management for a particular body of water. A more detailed look at the results can be found on pages 7 and 8.



Anglers typically targeted crappie in spring and fall and channel catfish in summer. White bass were popular in spring.



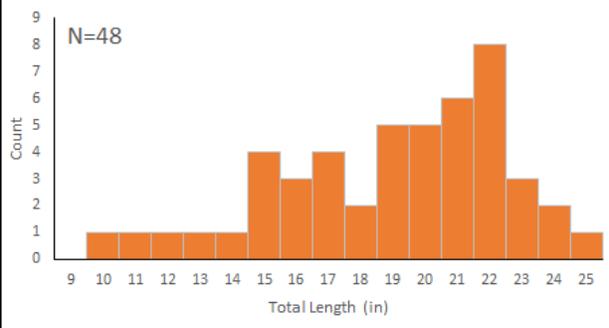
Elk City Crappie Down, Catfish Up



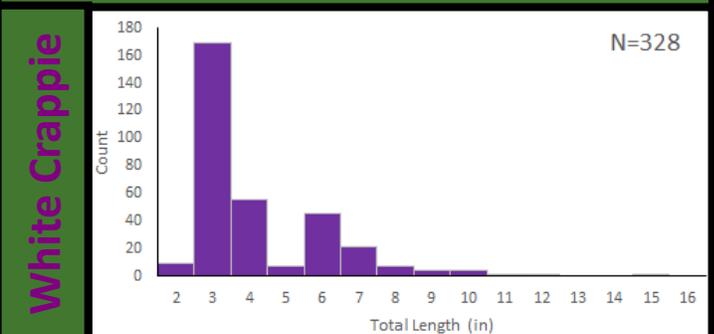
Gill net catch of channel catfish in 2014 is represented by **orange** boxes and trap net catch of crappies in 2014 by **purple** boxes. Numbers represent total catch.

There are both black crappie and white crappie in Elk City Reservoir, but the fishery is dominated by white crappie. Numbers were down from last year but there's no cause for concern. Crappie are notoriously difficult to sample and creel estimates indicate that the population is holding steady.

There are three types of catfish in Elk City Reservoir: channel catfish, flathead catfish, and blue catfish. Channels are the second most popular fish in the reservoir and account for over 30% of angling effort. Flathead catfish have the potential to reach large sizes, and the world record, a 123-lb brute, was caught from the reservoir. Blue catfish have existed in the reservoir in small numbers, but haven't ever established into a fishable population. We are hoping to change that. Over 45,000 blue catfish averaging about 6" long were stocked in fall, 2014, and there are 45,000 more with a reservation at Farlington Fish Hatchery that should call Elk City home in fall, 2015. Our hope is to create a naturally-sustaining blue catfish population that can contribute to the recreational fishery.



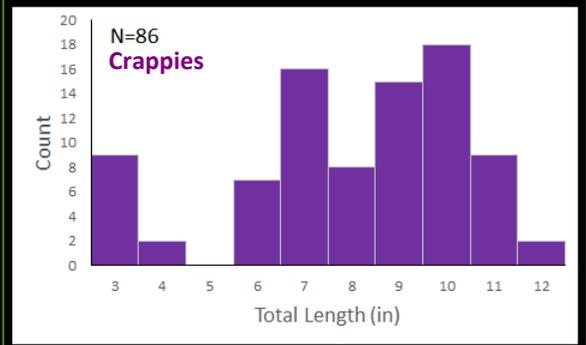
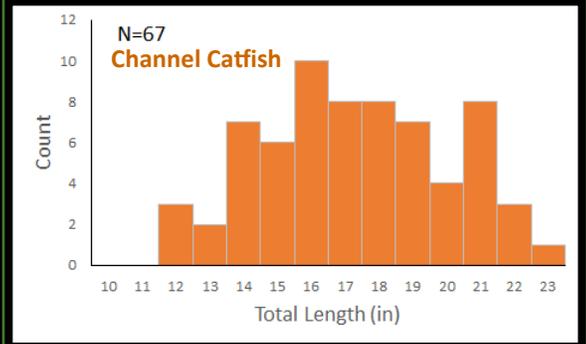
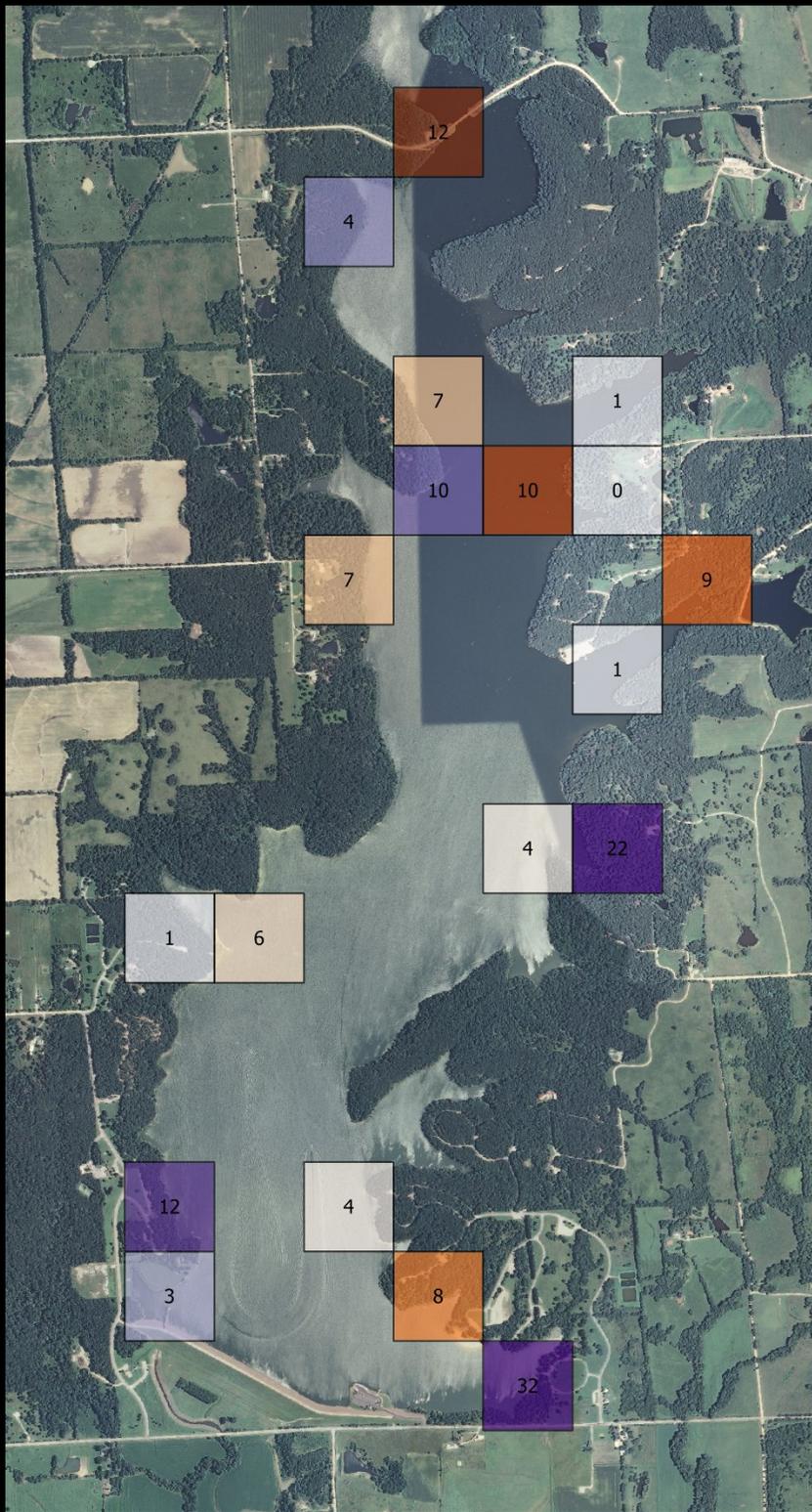
Channel Catfish



White Crappie

Big Hill Catfish a Surprise

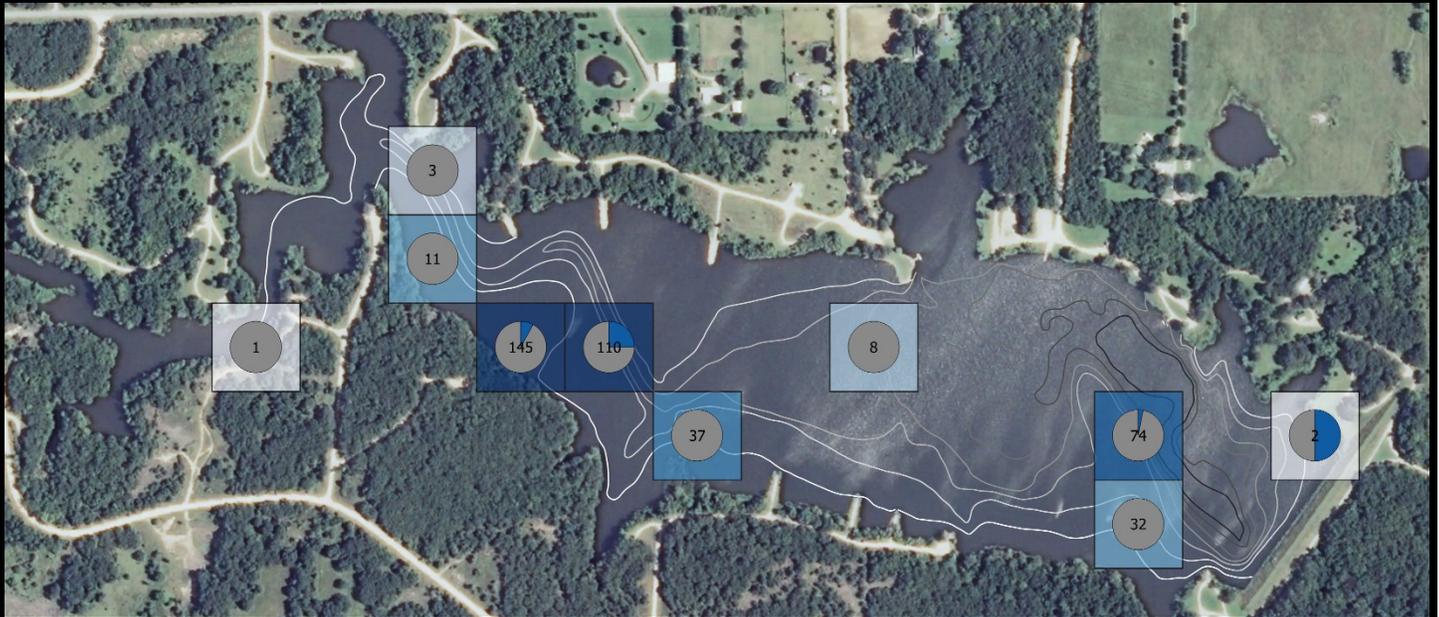
It's no secret that Big Hill is an excellent crappie and largemouth bass lake. In fact, these two species accounted for 40% and 21%, respectively, of angling effort in 2011. However, channel catfish might be a hidden gem. Gill net samples over the last five years indicate that the population is doing great and holding steady with a number of fish exceeding 20 inches. Look for good catfishing to continue at Big Hill.



BIG HILL LARGEMOUTH BASS UPDATE

Some of you are aware that we have been considering a different regulation for largemouth bass in Big Hill. Currently, the regulation is a 21-inch minimum length limit and a 5 fish daily creel. This regulation was put in place to in an effort to create a trophy fishery. However, reservoir aging has struck and growth has slowed. Typically in these situations, we relax harvest regulations to promote harvest of some fish so food resources aren't spread as thin. In essence, we try to better balance the ever-changing relationship between predator and prey. We haven't decided what, or even if, we will change. We will continue to collect data in an effort to make Big Hill largemouth bass fishing the best it can be.

Hybrid Catfish: An Update



We sampled channel and hybrid catfish in Montgomery State Fishing Lake in 2014 with hoop nets and gill nets. The figure above shows results from 10 hoop net deployments. The number inside the circle represents total number of catfish sampled in that particular gear deployment and darker squares represent increased total catch. Pie charts represent proportion of channel catfish (gray) and hybrid catfish (blue) sampled from each location.



We have moved into the third year of our hybrid catfish experiment at Montgomery and Wilson State Fishing Lakes. We stocked equal numbers of channel catfish (top) and hybrid catfish (bottom) in each lake in 2013 and 2014 and will do the same in 2015. The purpose is to compare growth, weight at length, and catchability between the two. We plan to assess this from data collected with spring gill nets, summer hoop nets, fall gill nets, and a three-year creel survey that will run at each lake from 2015 to 2017.

Hybrid Catfish FAQs

Why are you stocking hybrid catfish in Montgomery and Wilson State Fishing Lakes?

We are stocking hybrid catfish to answer two main questions: do they get bigger faster than channel catfish and are they easier to catch. There is anecdotal evidence that both of these are true. However, these hypotheses have not been formally tested in a public fishery.

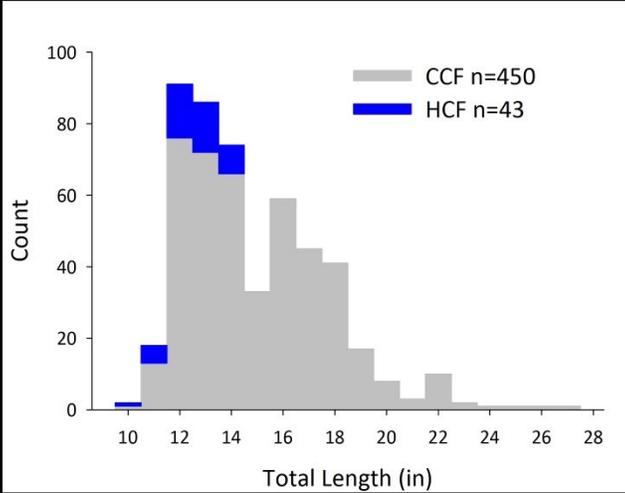
Will hybrid catfish reproduce?

Researchers at several universities in the southern United States have been working extensively with hybrid catfish production. They have not observed reproduction from the hybrids.

How do I catch a hybrid catfish?

I don't know for sure. We are hoping to learn more about their contribution to these fisheries through the upcoming 2015 to 2017 creel survey. If you have luck, give me a shout and let me know!

Hybrid Catfish: An Update

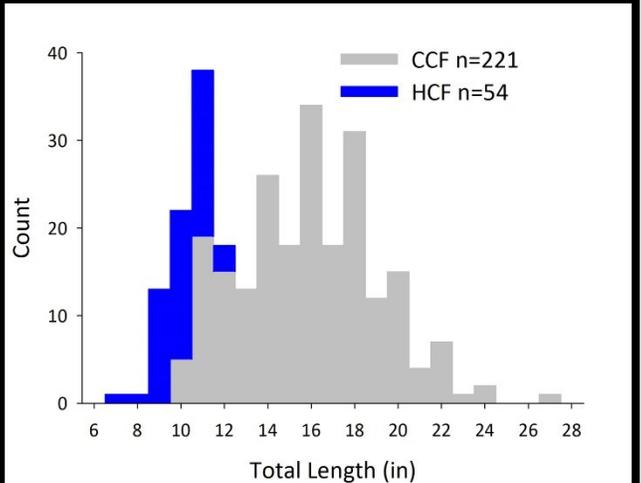


Length frequency distribution of channel catfish (CCF) and hybrid catfish (HCF) sampled with hoop nets from Montgomery State Fishing Lake in 2014.

We sampled channel and hybrid catfish in Wilson State Fishing Lake in 2014 with hoop nets and gill nets. The figure above shows results from eight hoop net deployments. The number inside the circle represents total number of catfish sampled in that particular gear deployment and darker squares represent increased total catch. Pie charts represent proportion of channel catfish (gray) and hybrid catfish (blue) sampled from each location.



Length frequency distribution of channel catfish (CCF) and hybrid catfish (HCF) sampled with hoop nets from Wilson State Fishing Lake in 2014.



Gizzard Shad Removal

Many of you know that we conducted a targeted chemical application in January, 2014 to selectively kill gizzard shad in Montgomery State Fishing Lake. This species was introduced by flooding in 2007 and directly competes with young bluegill and largemouth for food. Additionally, they can disrupt predator-prey dynamics in small impoundments when there are no open-water predators. I'm happy to report that the application was largely successful. We expended considerable effort electrofishing and gill netting in 2014 and the only shad we found were two large ones. Of course we hoped for eradication, but that was an unreasonable expectation. We are confident that we knocked the population back far enough that bluegill and largemouth bass populations will prosper. We will be conducting extensive age and growth analysis on bluegill and largemouth bass in upcoming years to formally test the effects of gizzard shad depletion on their growth.

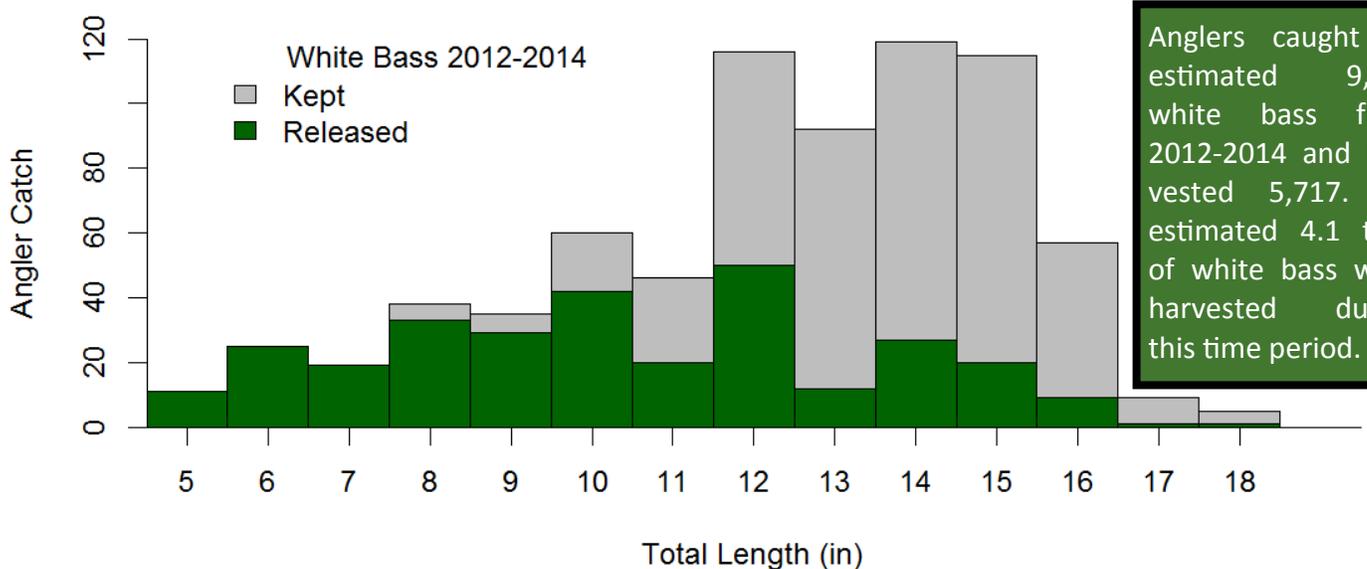
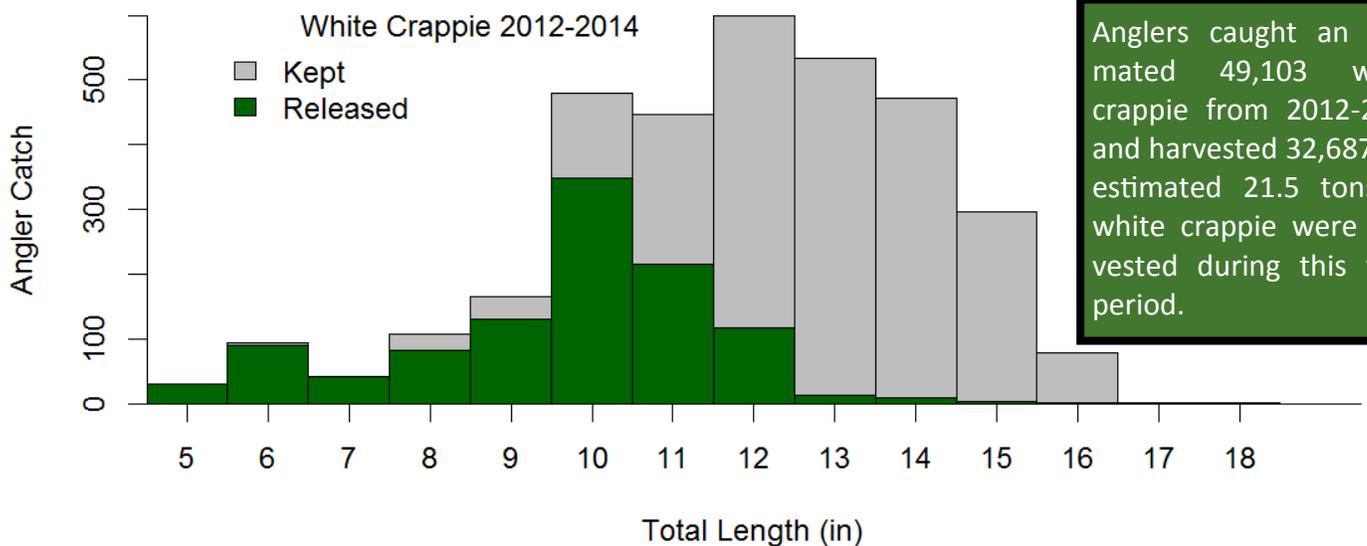
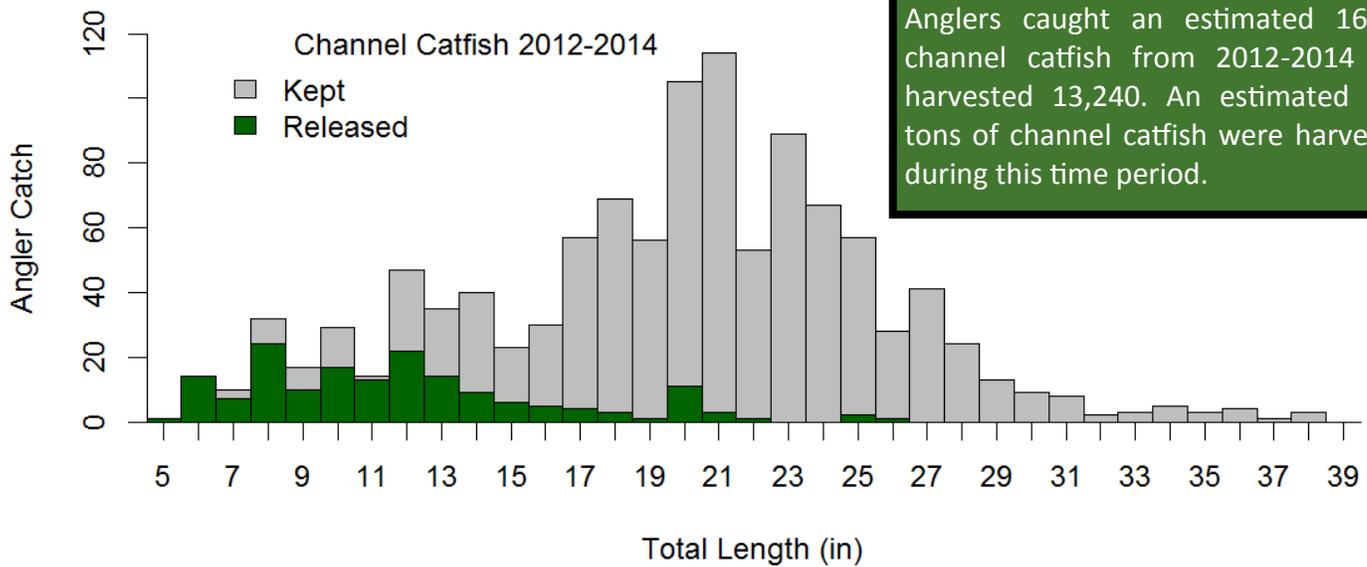


LeClere Recovering From Harsh Winter

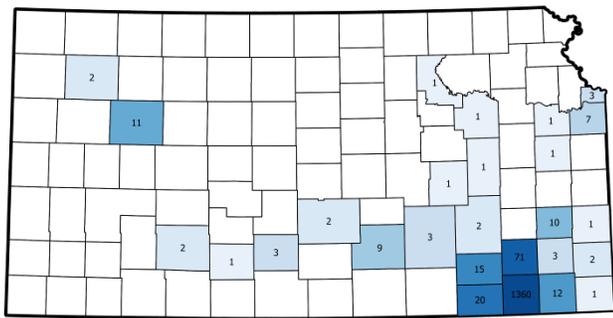
Coffeyville-LeClere suffered three separate fish kills in winter 2013/2014. These kills were dramatic enough that we requested a water quality check from Kansas Department of Health and Environment and a check for diseases in fish from the national fish health laboratory in Bozeman, Montana. The good news was that there was nothing evident in the water sample. Everything from organic nutrients to heavy metals were searched for and everything was within normal range. The fish analysis was comprised of both good and bad news. The good news was that there were no infectious diseases identified. This meant the kills were probably localized and were, in part, coincidental. However, the tests did reveal that many fish were exposed to periods of poor water quality. The most likely culprit here was low dissolved oxygen. Every body of water in the world has an oxygen budget. Aquatic vegetation and surface disturbance add oxygen and animals deplete it. In heavily urbanized systems (e.g., urban runoff, domestic waterfowl), obtaining oxygen balance can be difficult. These systems are vulnerable to low-oxygen kills.

In the case of LeClere, however, there is a happy end. Around 1,000 channel catfish were stocked in March, 2014 to replace those that were lost during the fish kills. Additionally, the City of Coffeyville installed a fountain that will add to the oxygen budget of the lake and hopefully prevent any future fish kills. Fishing might decline for a year or two, but should be back to normal in no time.

2012 - 2014 Elk City Creel Survey



2012 - 2014 Elk City Creel Survey



An estimated 55,900 anglers came from all over Kansas and the rest of the United States to fish Elk City Reservoir from 2012-2014. Numbers above represent number of anglers interviewed from each county or state.

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We recently completed a three-year creel survey at Elk City Reservoir that gave us insight into the fisheries it supports. I'll provide some highlights.

- Our dedicated creel clerk, William Matney, worked 684 four-hour shifts over 324 days to collect these data so we can improve your fishing.

- Anglers from 16 states and 27 Kansas counties were interviewed during the creel survey.

- Kansas anglers comprised 96% of all surveyed anglers and Montgomery County anglers comprised 89% of all Kansas anglers surveyed.

- Anglers typically targeted white bass and white crappie in spring, shifted to catfish in summer, and back to white crappie in fall.

- The fishery was dominated by males age 16-64 (54% of surveyed anglers) followed by males over 64 (20%) and females age 16-64 (12%).

- An estimated 82,165 fish representing 15 species were caught from 2012-2014. Of those, 54,779 were harvested. Anglers harvested an estimated 60 tons of fish during this period.

- The average harvested crappie was 12.9", channel catfish was 20.9", and white bass was 13.6". If all crappie harvested during the study period were laid end to end, they would measure 6.6 miles, channel catfish 4.4 miles, and white bass 1.2 miles.

- Angling pressure was estimated at 4.3 anglers/acre and 7.3 angling hours/acre. Compare that to 172 anglers/acre and 274 hours/acre at Montgomery State Fishing Lake in 2007 and 13.3 anglers/acre and 31.8 hours/acre at Big Hill Reservoir in 2011.

- Nearly 100,000 hours of angling was conducted at Elk City Reservoir during the study period.